

Appl. No. : 09/897,657  
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## AMENDMENTS TO THE CLAIMS

Claim 1. (Currently amended) A method of sterilizing a ~~material~~medical device comprising:  
applying a bioactive coating comprising polymerizable chemical to said ~~material~~medical device;  
polymerizing said bioactive coating on said ~~material~~medical device; and  
simultaneously or thereafter  
sterilizing said ~~material~~medical device and said bioactive coating with a  
sterilization process comprising generating a hydrogen peroxide gas plasma, without  
significantly impacting the bio-activity of the coating.

Claim 2. (Original) The method of claim 1, wherein at least a portion of the polymerizing step  
and the sterilizing step occur simultaneously.

Claim 3. (Currently amended) The method of claim 1 further comprising grafting said bioactive  
coating on said ~~material~~medical device.

Claim 4. (Original) The method of claim 3, wherein at least a portion of the polymerizing step,  
grafting step, and the sterilizing step occur simultaneously.

Claim 5. (Currently amended) The method of claim 1, wherein the ~~material~~medical device  
comprises metal, non-metal, polymer or plastic, elastomer, or biologically derived material.

Claim 6. (Currently amended) The method of claim 1, wherein the medical device comprises a  
~~material~~is selected from the group consisting of stainless steel, aluminum, nitinol, cobalt  
chrome, and titanium.

Claim 7. (Currently amended) The method of claim 1, wherein the medical device comprises a  
~~material~~is selected from the group consisting of glass, silica, and ceramic.

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Claim 8. (Currently amended) The method of claim 1, wherein the medical device comprises a material ~~is~~ selected from the group consisting of polyacetal, polyurethane, polyester, polytetrafluoroethylene, polyethylene, polymethylmethacrylate, polyhydroxyethyl methacrylate, polyvinyl alcohol, polypropylene, polymethylpentene, polyetherketone, polyphenylene oxide, polyvinyl chloride, polycarbonate, polysulfone, acrylonitrile-butadiene-styrene, polyetherimide, polyvinylidene fluoride, and copolymers and combinations thereof.

Claim 9. (Currently amended) The method of claim 1, wherein the medical device comprises a material ~~is~~ selected from the group consisting of polysiloxane, fluorinated polysiloxane, ethylene-propylene rubber, fluoroelastomer and combinations thereof.

Claim 10. (Currently amended) The method of claim 1, wherein the medical device comprises a material ~~is~~ selected from the group consisting of polylactic acid, polyglycolic acid, polycaprolactone, polyparadioxanone, polytrimethylene carbonate and their copolymers, collagen, elastin, chitin, coral, hyaluronic acid, bone and combinations thereof.

Claim 11. (Original) The method of claim 1, wherein the bioactive coating is selected from the group consisting of biocompatible coating, infection resistance coating, antimicrobial coating, drug release coating, antithrombogenic coating and lubricious coating.

Claim 12. (Original) The method of claim 1, wherein the bioactive coating comprises heparin, phosphoryl choline, urokinase or rapamycin.

Claim 13. (Original) The method of claim 1, wherein the bioactive coating comprises a hydrophilic or hydrophobic coating.

Claim 14. (Previously presented) The method of claim 1, wherein the bioactive coating comprises a polymer selected from the group consisting of polyvinyl pyrrolidone, polyethylene glycol, polypropylene glycol, polyethylene glycol-co-propylene glycol, polyethylene glycol acrylate, polyethylene glycol diacrylate, polyethylene glycol methacrylate, polyethylene glycol dimethacrylate, polyethylene oxide, polyvinyl alcohol, polyvinyl alcohol-co-vinylacetate,

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polyhydroxyethyl methacrylate, and polyhyaluronic acid, and hydrophilically substituted derivatives, monomers, unsaturated pre-polymers, and uncrosslinked polymers with double bonds thereof.

Claim 15. (Previously presented) The method of claim 1, wherein the bioactive coating comprises a polymer selected from the group consisting of polytetrafluoroethylene, polyethylene, polypropylene, poly(ethylene terephthalate), polyester, polyamides, polyarylates, polycarbonate, polystyrene, polysulfone, polyethers, polyacrylates, polymethacrylates, poly(2-hydroxyethyl methacrylate), polyurethanes, poly(siloxane)s, silicones, poly(vinyl chloride), fluorinated elastomers, synthetic rubbers, poly(phenylene oxide), polyetherketones, acrylonitrile-butadiene-styrene rubbers, polyetherimides, and hydrophobically substituted derivatives thereof and their precursor monomers.

Claim 16. (Currently Amended) A method of sterilizing and polymerizing a bioactive coating on a ~~material~~medical device comprising:

applying a bioactive coating comprising non-polymerized but polymerizable chemical to said ~~material~~medical device; and

simultaneously polymerizing said bioactive coating and sterilizing said ~~material~~medical device and bioactive coating with a sterilization process comprising generating a hydrogen peroxide gas plasma, without significantly impacting the bioactivity of the coating.

Claim 17. (Currently amended) The method of claim 16 further comprising grafting said bioactive coating on said ~~material~~medical device.

Claim 18. (Original) The method of claim 17, wherein at least a portion of the polymerizing step, grafting step, and the sterilizing step occur simultaneously.

Claims 19-20. Cancelled.

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**Please add the following new claims:**

Claim 21. (New) A method of sterilizing a material comprising:

applying a bioactive coating comprising polymerizable chemical to said material;  
polymerizing said bioactive coating on said material; and simultaneously or  
thereafter

sterilizing said material and said bioactive coating with a sterilization process  
comprising generating a hydrogen peroxide gas plasma with a frequency of 0.1MHz to 30  
MHz, without significantly impacting the bio-activity of the coating.

Claim 22. (New) A method of sterilizing a material comprising:

applying a bioactive coating comprising polymerizable chemical to said material;  
polymerizing said bioactive coating on said material; and simultaneously or  
thereafter

sterilizing said material and said bioactive coating with a sterilization process comprising  
generating a hydrogen peroxide gas plasma, without significantly impacting the bio-activity of  
the coating, wherein the material is selected from the group consisting of stainless steel,  
aluminum, nitinol, cobalt chrome, and titanium.

Claim 23. (New) A method of sterilizing a material comprising:

applying a bioactive coating comprising polymerizable chemical to said material;  
polymerizing said bioactive coating on said material; and simultaneously or  
thereafter

sterilizing said material and said bioactive coating with a sterilization process  
comprising generating a hydrogen peroxide gas plasma, without significantly impacting  
the bio-activity of the coating, wherein the material is selected from the group consisting  
of polylactic acid, polyglycolic acid, polycaprolactone, polyparadioxanone,  
polytrimethylene carbonate and their copolymers, collagen, elastin, chitin, coral,  
hyaluronic acid, bone and combinations thereof.

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Claim 24. (New) A method of sterilizing a material comprising:

applying a bioactive coating comprising polymerizable chemical to said material;  
polymerizing said bioactive coating on said material; and simultaneously or  
thereafter

sterilizing said material and said bioactive coating with a sterilization process  
comprising generating a hydrogen peroxide gas plasma, without significantly impacting  
the bio-activity of the coating, wherein the bioactive coating comprises heparin,  
phosphoryl choline, urokinase or rapamycin.

Claim 25. (New) A method of sterilizing a material comprising:

applying a bioactive coating comprising polymerizable chemical to said material;  
introducing a biological indicator;  
polymerizing the bioactive coating on the material; and  
sterilizing the material with the bioactive coating and the biological indicator with  
a sterilization process comprising generating a hydrogen peroxide gas plasma.